

Leanne Joseph Flewelling

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Education

- 2008 Ph.D., Marine Science, University of South Florida, College of Marine Science
“Vectors of Brevetoxins to Marine Mammals”
Co-Major Advisors: Dr. Gabriel Vargo, Dr. Joseph Torres
- 1997 M.S., Environmental Sciences: Applied Marine Ecology, University of Massachusetts Boston
“Nitrate Utilization by Vertically Migrating *Rhizosolenia* Mats”
Major Advisor: Dr. Tracy Villareal
- 1989 B.A., Philosophy, University of Massachusetts Boston, *magna cum laude*

Professional Experience

- 2010–present Research Administrator II, Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, St. Petersburg, FL
- 2009–2010 Associate Research Scientist, FWC-FWRI, St. Petersburg, FL
- 2006–2009 Assistant Research Scientist, FWC-FWRI, St. Petersburg, FL
- 2001–2006 Marine Research Associate, FWC-FMRI, St. Petersburg, FL
- 1999–2001 Research Staff, FWC-FMRI, St. Petersburg, FL
- 1998–1999 Environmental Scientist I, St. Johns River Water Mgmt. District, Palatka, FL
- 1997–1998 Environmental Specialist I, Florida Department of Health, Tampa, FL
- 1996–1997 Research Staff, FWC-FMRI, St. Petersburg, FL

Publications

- Foley AM, Stacy BA, Schueller P, **Flewelling LJ**, Schroeder B, Minch K, Fauquier DA, Foote JJ, Manire CA, Atwood KE, Granholm AA, Landsberg JH. 2019. Assessing *Karenia brevis* red tide as a mortality factor of sea turtles in Florida, USA. *Diseases of Aquatic Organisms* 132(2):109-124.
- Amaya O, Quintanilla R, Stacy BA, Dechraoui Bottein M-Y, **Flewelling L**, Hardy R, Dueñas C, Ruiz G. 2018. Large-scale sea turtle mortality events in El Salvador attributed to paralytic shellfish toxin-producing algae blooms. *Frontiers in Marine Science* 5(411):1-10.
- Buttke DE, Walker A, Huang I-S, **Flewelling L**, Lankton J, Ballmann AE, Clapp T, Lindsay J, Zimba PV. 2018. Green tree frog (*Hyla cinerea*) and ground squirrel (*Xerospermophilus spilosoma*) mortality attributed to inland brevetoxin transport at Padre Island National Seashore, Texas, USA, 2015. *Journal of Wildlife Diseases* 54(1):142-146.
- Abraham A, El Said KR, **Flewelling LJ**. 2018. Role of biomarkers in monitoring brevetoxins in *Karenia brevis* exposed shellfish. *Food Safety* 6(1):33-43.
- Walker JS, Shaver DJ, Stacy BA, **Flewelling LJ**, Broadwater MH, Wang Z. 2018. Brevetoxin exposure in sea turtles in south Texas (USA) during *Karenia brevis* red tide. *Diseases of Aquatic Organisms* 127(2):145-150.
- Cocilova CC, **Flewelling L**, Bossart G, Granholm A, and Milton, S. (2017) Tissue uptake, distribution and excretion of brevetoxin-3 after oral and intratracheal exposure in the freshwater turtle *Trachemys scripta* and the diamondback terrapin *Malaclemys terrapin*. *Aquatic Toxicology* 187:29-37.
- Martin J, Runge MC, **Flewelling LJ**, Deutsch CJ, and Landsberg JH. 2017. An expert elicitation process to project the frequency and magnitude of Florida manatee mortality events caused by red tide (*Karenia*

- brevis*): U.S. Geological Survey Open-File Report 2017–1132, 17 p., <https://doi.org/10.3133/ofr20171132>.
- Abraham A, El Said KR, Wang Y, Jester EL, Plakas SM, **Flewelling LJ**, Henry MS, Pierce RH. 2015. Biomarkers of brevetoxin exposure and composite toxin levels in hard clam (*Mercuraria* sp.) exposed to *Karenia brevis* blooms. *Toxicon* 96:82-88.
- Fire SE, **Flewelling LJ**, Stolen M, Noke Durden W, de Wit M, Spellman AC, Wang Z. 2015. Brevetoxin-associated mass mortality event of bottlenose dolphins and manatees along the east coast of Florida, USA. *Marine Ecology Progress Series* 526:241-251.
- Walsh CJ, Butawan M, Yordy J, Ball R, **Flewelling LJ**, de Wit M, Bonde RK. 2015. Sublethal red tide toxin exposure in free-ranging manatees (*Trichechus manatus*) affects the immune system through reduced lymphocyte proliferation responses, inflammation, and oxidative stress. *Aquatic Toxicology* 161:73-84.
- Borkman DG, Smayda TJ, Schwarz EN, Flewelling LJ, Tomas CR. 2014. Recurrent vernal presence of the toxic *Alexandrium tamarense*/*Alexandrium fundyense* (Dinoflagellata) species complex in Narragansett Bay, USA. *Harmful Algae* 32:73-80.
- Corcoran AA, Richardson B, **Flewelling LJ**. 2014. Effects of nutrient-limiting supply ratios on toxin content of *Karenia brevis* grown in continuous culture. *Harmful Algae* 39:334-341.
- Lewitus A, Bargu S, Byrd M, Dorsey C, Flewelling L, Flowers A, Heil C, Kovach C, Lovko V, Steidinger K. 2014. Resource guide for harmful algal bloom toxin sampling and analysis. White Paper from the Gulf of Mexico Alliance. (Not peer-reviewed)
- Castle KT, **Flewelling LJ**, Bryan J, Kramer A, Lindsay J, Nevada C, Stablein W, Wong D, Landsberg JH. 2013. Coyote (*Canis latrans*) and domestic dog (*C. familiaris*) mortality and morbidity due to a *Karenia brevis* red tide in the Gulf of Mexico. *Journal of Wildlife Diseases* 49(4):955-964.
- Capper A, **Flewelling LJ**, Arthur K. 2013. Dietary exposure to harmful algal bloom (HAB) toxins in the endangered manatee (*Trichechus manatus latirostris*) and green sea turtle (*Chelonia mydas*) in Florida, USA. *Harmful Algae* 28:1-9.
- Fauquier DA, **Flewelling LJ**, Maucher J, Manire CA, Socha V, Kinsel MJ, Stacy BA, Henry M, Gannon J, Ramsdell JS, Landsberg JH. 2013a. Brevetoxin in blood, biological fluids, and tissues of sea turtles naturally exposed to *Karenia brevis* blooms in central west Florida. *Journal of Zoo and Wildlife Medicine* 44(2):364-375.
- Fauquier DA, **Flewelling LJ**, Maucher JM, Keller M, Kinsel MJ, Johnson CK, Henry M, Gannon JG, Ramsdell JS, Landsberg JH. 2013b. Brevetoxicosis in seabirds naturally exposed to *Karenia brevis* blooms along the central west coast of Florida. *Journal of Wildlife Diseases* 49(2):246-260.
- Sunda WG, Burleson C, Hardison DR, Morey JS, Wang Z, Wolny J, Corcoran AA, **Flewelling LJ**, Van Dolah FM. 2013. Osmotic stress does not trigger brevetoxin production in the dinoflagellate *Karenia brevis*. *Proceedings of the National Academy of Sciences* 110(25):10223-10228.
- Sunda WG, Burleson C, Hardison DR, Morey JS, Wang Z, Wolny J, Corcoran AA, **Flewelling LJ**, Van Dolah FM. 2013. Reply to Errera and Campbell: No, low salinity shock does not increase brevetoxins in *Karenia brevis*. *Proceedings of the National Academy of Sciences* 110(25):E2256.
- Tatters AO, **Flewelling LJ**, Fu F, Granholm AA, Hutchins DA. 2013. High CO₂ promotes the production of paralytic shellfish poisoning toxins by *Alexandrium catenella* from Southern California waters. *Harmful Algae* 30:37-43.
- Hall ER, Nierenberg K, Boyes AJ, Heil CA, **Flewelling LJ**, Kirkpatrick B. 2012. The art of red tide science. *Harmful Algae* 17:1-5.
- Twiner MJ, **Flewelling LJ**, Fire SE, Bowen-Stevens SR, Gaydos JK, Johnson CK, Landsberg JH, Leighfield TA, Mase-Guthrie B, Schwacke L, Van Dolah FM, Wang Z, Rowles TK. 2012. Comparative analysis of three brevetoxin-associated bottlenose dolphin (*Tursiops truncatus*) mortality events in the Florida Panhandle region (USA). *PLoS ONE* 7(8):e42974.
- van Deventer M, Atwood K, Vargo GA, **Flewelling LJ**, Landsberg JH, Naar JP, Stanek D. 2012. *Karenia brevis* red tides and brevetoxin-contaminated fish: a high risk factor for Florida's scavenging shorebirds? *Botanica Marina* 55(1):31-37.

- Flewelling LJ**, Adams DH, Naar JP, Atwood KA, Granholm AA, O'Dea SN, Landsberg JH. 2010. Brevetoxins in sharks and rays (Chondrichthyes, Elasmobranchii) from Florida coastal waters. *Marine Biology* 157(9):1937-1953.
- Nam D-H, Adams DH, **Flewelling LJ**, Basu N. 2010. Neurochemical alterations in lemon shark (*Negaprion brevirostris*) brains in association with brevetoxin exposure. *Aquatic Toxicology* 99:351-359.
- Swanson KM, **Flewelling LJ**, Byrd M, Nunez A, Villareal TA. 2010. The 2008 Texas *Dinophysis ovum* bloom: distribution and toxicity. *Harmful Algae* 9(2):190-199.
- Abbott JP, **Flewelling LJ**, Landsberg JH. 2009. Saxitoxin monitoring in three species of Florida puffer fish. *Harmful Algae* 8:343-348.
- Landsberg JH, **Flewelling LJ**, Naar J. 2009. *Karenia brevis* red tides, brevetoxins in the food web, and impacts on natural resources: decadal advancements. *Harmful Algae* 8:598-607.
- Abraham A, Plakas SM, **Flewelling LJ**, El Said KR, Jester ELE, Granade HR, White KD, Dickey RW. 2008. Biomarkers of Neurotoxic Shellfish Poisoning. *Toxicon* 52:237-245.
- Fire SE, **Flewelling LJ**, Naar J, Twiner MJ, Henry MS, Pierce RH, Gannon DP, Wang Z, Davidson L, Wells RS. 2008a. Prevalence of brevetoxins in prey fish of bottlenose dolphins in Sarasota Bay, Florida. *Marine Ecology Progress Series* 368:283-294.
- Fire SE, **Flewelling LJ**, Wang Z, Naar J, Henry MS, Pierce RH, Wells RS. 2008b. Florida red tide and brevetoxins: Association and exposure in live resident bottlenose dolphins (*Tursiops truncatus*) in the eastern Gulf of Mexico, USA. *Marine Mammal Science* 24(4):831-844.
- Flewelling LJ**. 2008. Vectors of brevetoxins to marine mammals. *PhD dissertation*, University of South Florida, 2008, 143 pp.
- Plakas SM, Jester EL, El Said KR, Granade HR, Abraham A, Dickey RW, Scott PS, **Flewelling LJ**, Henry M, Blum P, Pierce R. 2008. Monitoring of brevetoxins in the *Karenia brevis* bloom-exposed Eastern oyster (*Crassostrea virginica*). *Toxicon* 52(1):32-8.
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- Naar JP, **Flewelling LJ**, Lenzi A, Abbott JP, Granholm A, Jacocks HM, Gannon D, Henry M, Pierce R, Baden DG, Wolny JL, Landsberg JL. 2007. Brevetoxins, like ciguatoxins, are potent ichthyotoxic neurotoxins that accumulate in fish. *Toxicon* 50:707-723.
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- Landsberg JH, Hall S, Johannessen JN, White KD, Conrad SM, Abbott JP, **Flewelling LJ**, Richardson RW, Dickey RW, Jester ELE, Etheridge SM, Deeds JR, Van Dolah FM, Leighfield TA, Zou YL, Beaudry CG, Benner RA, Rogers PL, Scott PS, Kawabata K, Wolny JL, Steidinger KA. 2006. Saxitoxin puffer fish poisoning in the United States, with the first report of *Pyrodinium bahamense* as the putative toxin source. *Environmental Health Perspectives* 114(10):1502-1507.
- Pierce RH, Henry MS, Blum PC, Plakas SM, Granade HR, Jester ELE, Said KRE, Dickey RW, Steidinger KA, Scott PS, **Flewelling LJ**, Wright JLC. 2006. Comparison of methods for determination of brevetoxins and their metabolites in NSP-toxic bivalved molluscs. In: Henshilwood K, Deegan B, McMahon T, Cusack C, Keaveney S, Silke J, O'Cinneide M, Lyons D, Hess P, editors. *Proceedings of the 5th International Conference on Molluscan Shellfish Safety, Galway Ireland, June 14-18, 2004*. Rinville, Oranmore, Galway, Ireland: The Marine Institute. pp. 37-42.

- Flewelling LJ**, Naar JP, Abbott JP, Baden DG, Barros NB, Bossart GD, Bottein M-YD, Hammond DG, Haubold EM, Heil CA, Henry MS, Jacocks HM, Leighfield TA, Pierce RH, Pitchford TD, Rommel SA, Scott PS, Steidinger KA, Truby EW, Dolah FMV, Landsberg JH. 2005. Red tides and marine mammal mortalities. *Nature* 435(June 9, 2005):755-756.
- Dickey RW, Plakas SM, Jester ELE, El Said KR, Johannessen JN, **Flewelling LJ**, Scott P, Hammond DG, Dolah FMV, Leighfield TA, Dachraoui M-YB, Ramsdell JS, Pierce RH, Henry MS, Poli MA, Walker C, Kurtz J, Naar J, Baden DG, Musser SM, White KD, Truman P, Miller A, Hawryluk TP, Wekell MM, Stirling D, Quilliam MA, Lee JK. 2004. Multi-laboratory study of five methods for the determination of brevetoxins in shellfish tissue extracts. In: Steidinger KA, Landsberg JH, Tomas CR, Vargo GA, editors. *Harmful Algae 2002*. St. Petersburg, FL USA: Florida Fish and Wildlife Conservation Commission, Florida Institute of Oceanography, and Intergovernmental Oceanographic Commission of UNESCO. pp. 300-302.
- Naar J, Kubanek J, Weidner AL, **Flewelling LJ**, Bourdelais A, Steidinger K, Baden DG. 2004. Brevetoxin depuration in shellfish via production of non-toxic metabolites: consequences for seafood safety and the environmental fate of brevetoxins. In: Steidinger KA, Landsberg JH, Tomas CR, Vargo GA, editors. *Harmful Algae 2002*. St. Petersburg, FL USA: Florida Fish and Wildlife Conservation Commission, Florida Institute of Oceanography, and Intergovernmental Oceanographic Commission of UNESCO. pp. 488-490.
- Plakas SM, Wang Z, Said KRE, Jester ELE, Granade HR, **Flewelling L**, Scott P, Dickey RW. 2004. Brevetoxin metabolism and elimination in the Eastern oyster (*Crassostrea virginica*) after controlled exposures to *Karenia brevis*. *Toxicon* 44:677-685.
- Weidner AL, Naar J, Steidinger KA, Pierce R, Henry M, **Flewelling LJ**, Baden DG. 2004. Variability of brevetoxin accumulation levels within individual shellfish during *Karenia brevis* blooms. In: Steidinger KA, Landsberg JH, Tomas CR, Vargo GA, editors. *Harmful Algae 2002*. St. Petersburg, FL USA: Florida Fish and Wildlife Conservation Commission, Florida Institute of Oceanography, and Intergovernmental Oceanographic Commission of UNESCO. pp. 485-487.
- Naar J, Bourdelais A, Tomas C, Kubanek J, Whitney PL, **Flewelling LJ**, Steidinger KA, Lancaster J, Baden DG. 2002. A competitive ELISA to detect brevetoxins from *Karenia brevis* (formerly *Gymnodinium breve*) in seawater, shellfish, and mammalian body fluid. *Environmental Health Perspectives* 110(2):179-185.
- Villareal TA, **Joseph L**, Brzezinski MA, Shipe RF, Lipschultz F, Altabet MA. 1999. Biological and chemical characteristics of the giant diatom *Ethmodiscus* (Bacillariophyceae) in the central North Pacific gyre. *Journal of Phycology* 35:896-902.
- Joseph L**, Villareal TA. 1998. Nitrate reductase activity as a measure of nitrogen incorporation in *Rhizosolenia formosa* (H. Peragallo): internal nitrate and diel effects. *Journal of Experimental Marine Biology and Ecology* 229:159-176.
- Joseph L**, Villareal TA, Lipschultz F. 1997. A high sensitivity nitrate reductase assay and its application to vertically migrating *Rhizosolenia* mats. *Aquatic Microbial Ecology* 12:95-104.

Book Chapters

- Landsberg JH, Lefebvre KA, **Flewelling LJ**. 2014. Effects of toxic microalgae on marine organisms. In: Rossini GP, editor. *Toxins and Biologically Active Compounds from Microalgae. Volume 2. Biological Effects and Risk Management*. CRC Press, Boca Raton, pp. 379-449.
- Steidinger KA, Landsberg JL, **Flewelling LJ**, Kirkpatrick B. 2008. Toxic dinoflagellates. In: Walsh PJ, Smith SL, Fleming LE, Solo-Gabriele H, Gerwick WH, editors. *Oceans and Human Health: Risks and Remedies from the Sea*. Elsevier Science Publishers, New York, pp. 239-256.
- Landsberg JH, Vargo GA, **Flewelling LJ**, Wiley F. 2007. Algal biotoxins. In: Thomas NJ, Hunter DB, Atkinson CT, editors. *Infectious Diseases of Wild Birds*. Blackwell Pub., Ames, Iowa, pp. 431-455.

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Invited Talks

- Flewelling, LJ**, NSP monitoring in Florida: Toxicity testing and progress towards improvements, Florida Sea Grant: Red Tide Stinks! Shellfish Industry Strategies for Dealing with Harmful Algal Blooms, Bradenton, FL, November 2017
- Flewelling, LJ**, Marine biotoxin monitoring in Florida: Current methods and efforts for future improvements, Florida Aquaculture Association, Bartow, FL, September 2016.
- Flewelling, LJ**, *Karenia brevis*: red tide monitoring and management in Florida: current practices and efforts for future improvements, Gulf and South Atlantic States Shellfish Conference, New Orleans, LA, June 2016.
- Flewelling LJ**, Harmful Algal Blooms and HAB Monitoring in the U.S., Harmful Algal Blooms Workshop: Management, Diagnosis, and Treatment in Sea Turtles, Puntarenas, Costa Rica, May 2015.
- Flewelling LJ**, Effects of HAB Toxins on Wildlife, Harmful Algal Blooms Workshop: Management, Diagnosis, and Treatment in Sea Turtles, Puntarenas, Costa Rica, May 2015.
- Flewelling LJ**, Detection of Marine Biotoxins, Harmful Algal Blooms Workshop: Management, Diagnosis, and Treatment in Sea Turtles, Puntarenas, Costa Rica, May 2015.
- Flewelling LJ**, Florida's Marine Algal Toxins, Clearwater Marine Aquarium Speaker Series, Clearwater, FL, August 2010.
- Flewelling LJ**, Marine Algal Toxins: Overview and Assessment of Exposure in Sea Turtles, Sea Turtle Mortality Event Workshop, St. Catherine's Island, GA, March 2008.
- Flewelling LJ**, Competitive ELISA assessment of brevetoxin exposure in humans and animals, Satellite Workshop to the Gordon Conference on Mycotoxins and Phycotoxins, Mount Desert Island, ME, June 2007.
- Flewelling LJ**, Brevetoxins in the Food Web: Impacts on Public and Environmental Health. Florida A&M University, Tallahassee, FL, November 2006.
- Flewelling LJ**, Brevetoxins in the Food Web and Relevance to Public Health, Seminar on Red Tides in North Florida: Ecology, Impacts and Response Activities, St. Joseph Bay State Buffer Preserve, May 2006.
- Flewelling LJ**, Florida Red Tide and Molluscan Shellfish Monitoring, Gulf and South Atlantic States Shellfish Conference, St. Simon's Island, GA, April 2004.
- Flewelling LJ**, Harmful Algal Blooms in Florida: Implications for Human Health, Pinellas County Health Department In-Service Meeting, St. Petersburg, FL, October 2003.

Conference Presentations – Presenting Author

- Flewelling LJ**, Landsberg, JH. Domoic acid in stranded juvenile green sea turtles, *Chelonia mydas*, in southeast Florida. 8th Symposium on Harmful Algae in the US; November 15-19, 2015; Long Beach, CA. *Oral Presentation*.
- Flewelling LJ**, Landsberg, JH. Harmful Effects of Marine Algal Toxins on Aquatic Wildlife. North American Chemical Residue Workshop; July 19-22, 2015; St. Pete Beach, FL. *Oral Presentation*.
- Flewelling LJ**, Corcoran AA. Identity of the brown tide organism *Aureoumbra lagunensis* verified with a polyclonal antibody. Indian River Lagoon Symposium 2013 - Health of the Lagoon; February 7-8, 2013; Ft. Pierce, FL. *Oral Presentation*.
- Flewelling LJ**, Naar J, Abbott JP, Landsberg JH. Unexpected vectors of brevetoxins to marine mammals. Phycological Society of America Annual Meeting July 27–30, 2008; New Orleans, LA. *Oral Presentation*.
- Flewelling LJ**, Heil CA, Abbott J, Atwood K, Granholm A, O Dea S, Foley AM, Fauquier D, Brown H, Rommel SA, Costidis A, Stanek D, van Deventer M, Vargo GA, Landsberg JH. Fish and wildlife mortalities associated with the 2005 Florida red tide. 12th International Conference on Harmful Algae; October 2-7, 2005; Copenhagen, Denmark. *Poster Presentation*.
- Flewelling L**, Naar J, Abbott J, Haubold E, Landsberg J. Unexpected vectors of brevetoxins during marine mammal mortalities. Third Symposium on Harmful Algae in the US; October 2-7, 2005; Pacific Grove, CA. *Oral Presentation*.

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Flewelling LJ, Abbott JP, Hammond DG, Landsberg JH, Haubold E, Spiess P, Henry MS. Brevetoxin-related manatee mortalities associated with turtlegrass (*Thalassia testudinum*). XI International Conference on Harmful Algal Blooms; November 14-19, 2004; Cape Town, South Africa. *Poster Presentation*.

Flewelling LJ, Abbott JP, Hammond DG, Landsberg J, Haubold E, Pulfer T, Spiess P, Henry MS. Seagrass as a route of brevetoxin exposure in the 2002 red tide-related manatee mortality. Second Symposium on Harmful Marine Algae in the US; December 8-13, 2003; Woods Hole, MA. *Oral Presentation*.

Flewelling LJ, Landsberg J, Abbott JP, Cook S. Puffer fish toxicity in Florida, U.S.A. Gordon Research Conference on Mycotoxins and Phycotoxins; June 15-20, 2003; Colby College, Waterville, ME. *Poster Presentation*.

Flewelling LJ, Truby EW, Scott P, Hammond DG. Red tide in Apalachicola Bay, Florida 2001. 10th International Conference on Harmful Algal Blooms; October 21-25, 2002; St. Petersburg, FL. *Poster Presentation*.

Current Grant Support

Dec 2016 – Nov 2020	Cetacean Tissue Analysis. NFWF Gulf Environmental Benefit Fund subaward through Mote Marine Lab, \$75,000. (Principal Investigator: G. Lovewell, Mote)
Oct 2017 – Sep 2020	PCMHAB 2017: Integration of Alternative Methods of Analysis into the Neurotoxic Shellfish Poisoning Monitoring and Management Framework. NOAA-NOS-NCCOS-PCMHAB, \$285,269. Principal Investigator.
Oct 2017 – Mar 2019	Analysis of Biological Samples from Marine Mammals & Sea Turtles for Biotoxins. NOAA , \$14,875. Principal Investigator.
Sep 2018 – Aug 2019	Analysis of brevetoxins in stranded dolphins. Prescott Grant subaward through Mote Marine Lab, \$5,000. Co-Investigator (Principal Investigator: G. Lovewell, Mote)

Professional Service

- Co-Chair and Organizer of the 7th Symposium on Harmful Algae in the US, Sarasota, FL, October 27-31, 2013.
- Member, Gulf of Mexico Alliance HABs Workgroup, 2011-present.
- Member, Association of Analytical Communities (AOAC) Presidential Task Force on Marine and Freshwater Toxins, 2004-present.
- Administrator, FWC Red Tide Control and Mitigation Grant Program, 2007-2010: wrote and issued RFP, coordinated external review panel, administered all contracts for awards.
- Organizer and co-host of the Harmful Algal Bloom Control and Mitigation Workshop and Public Forum, Sarasota, FL, February 2010.
- Reviewer of manuscripts for: Diseases of Aquatic Organisms, Toxicon, Toxins, PLoS ONE, Harmful Algae, Marine Mammal Science, Journal of Coastal Research, Harmful Algae 2002 Conference Proceedings, African Journal of Marine Science (Proceedings of 11th International Conference on Harmful Algae).
- Reviewer of research proposals for: Prescott Grant Program, Florida Sea Grant, Rhode Island Sea Grant, Small Business Innovation Research (SBIR) Program, Texas Academy of Science student research proposals.
- Member, Investigative Team, NOAA-declared Unusual Mortality Events involving dolphins (2004, 2005-2006, 2010-2013) and manatees (2002, 2003, 2005, 2006, 2007, 2013).